Manchester Public Schools

Math - Grade 2: Unit 1 - Building a Community of Mathematicians

UNIT OVERVIEW

GENERAL INFORMATION

Terms:		**Duration:**	20.0 Day(s)	**Start Date:**	08-26-2015	**Finish Date:**	09-23-2015
Subjects:	Mathematics	**Interdisciplinary Approaches:**		**Courses:**	ELEM-MA-Mathematics - Grade 2		
Year Level(s):	2			**Unit No.**	MPSDC-024551		
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UNIT FOCUS

This launch unit is designed to introduce students to the routines of math workshop and to the rigor of the Connecticut Core Standards. The unit allows for reteaching to mastery and time to establish routines necessary for building a classroom community. Students will learn to follow agreed upon rules for speaking and listening as they begin to build the stamina needed to endure the practice time of math workshop.
This unit is not designed to go in-depth with content standards. The purpose is to familiarize students with the routines and procedures that will be necessary in order for students to successfully meet the Connecticut Core Standards and actively participate in math workshop. Within this unit, you will need to assess students using the District Benchmark Assessment. Subsequent units will include more thorough instruction on the standards.

PRIOR LEARNINGS / CONNECTIONS

The creation of a numeracy environment is the foundation of math workshop. It is important to invest time and attention in creating supportive classroom communities. Students should connect prior experiences with math workshop, including but not limited to:
Classroom Community: Teachers and students work collaboratively in an atmosphere of mutual respect; students are motivated to do their best work and feel safe to take risks. The class functions as a learning community where each student's learning is important, i.e., students take responsibility for learning and support others.
Physical environment: Purposeful arrangement of the environment facilitates development of a numeracy environment. Students have independent access to resources and the arrangement of the room facilitates collaboration.
Predictable structure: The math block should be at least 60 minutes. Maintenance of a predictable structure is essential if students are to become self-managing.

ADDITIONAL INFORMATION

RESOURCES

No.	Description	Files / Links
RES1	Number Talks - Number Talks: Helping Children Build Mental Math and Computation Strategies, Sherry Parrish (p. 119-136)	https://drive.google.com/a/mpspride.org/file/d/0B6yqp2quUBXKcTJlMk93TVFjSlE/view?usp=sharing (link)
RES2	Guided Math in Action - Nicki Newton's Guided Math in Action (First 20 Days)	https://drive.google.com/a/mpspride.org/file/d/0B1u-SudncFHQRDBlZW1xemRXVHM/view?usp=sharing (link)
RES3	Math Workshop in Action - Nicki Newton's Math Workshop in Action	
RES4	enVision 2.0 - Mathematical Practices animated videos 8 Mathematical Practices Posters (Kid Friendly)	
RES5	Math Work Stations: Independent Learning You Can Count On, K-2 by Debbie Diller - (p. 133-158)	https://drive.google.com/a/mpspride.org/file/d/0B6yqp2quUBXKNVpja1pJNlRnU0U/view?usp=sharing (link)

RES6	Teaching Student Centered Math K-3 (Van de Walle) - Blackline Masters	http://www.ablongman.com/vandewalleseries/Vol_1_BLM_PDFs/V1%20All%20BLMs.pdf (link)
RES7	Renerek Activities - K-5 Math Resource Page	http://www.k-5mathteachingresources.com/Rekenrek.html (link)
RES8	Mental Math Activities - K-5 Math Resource Page	http://www.k-5mathteachingresources.com/mental-math.html (link)
RES9	Common Core Flip Book - Grade 2 -	https://www.azed.gov/azccrs/files/2013/11/2flipbookedited.pdf (link)
RES10	Math Look Fors -	https://drive.google.com/a/mpspride.org/file/d/0B6yqp2quUBXKYlc1NEZOS1dvZ3c/view?usp=sharing (link)
RES11	CCSS Math Focus K-8 -	https://drive.google.com/a/mpspride.org/file/d/0B6yqp2quUBXKRlM1a2MteHFxaTQ/view?usp=sharing (link)
RES12	UCONN - Bridging Practices Among CT Math Educators -	http://bridges.education.uconn.edu/repository (link)
RES13	Year Long Curriculum Map -	https://docs.google.com/a/mpspride.org/document/d/1NyAY-8X9tik5WKoj9ahfs3o8m_YYtB_UvHdZJzLrmlo/edit?usp=sharing (link)

COMMENTS / NOTES

STAGE 1: DESIRED RESULTS – KEY UNDERSTANDINGS

ESTABLISHED GOALS

Curriculum

Common Core Standards

Mathematics : 2

2000094 Mathematical Practices

- CCSS.MATH.MP.8 Look for and express regularity in repeated reasoning.
- CCSS.MATH.MP.1 Make sense of problems and persevere in solving them.
- CCSS.MATH.MP.2 Reason abstractly and quantitatively.
- CCSS.MATH.MP.4 Model with mathematics.
- CCSS.MATH.MP.5 Use appropriate tools strategically.
- CCSS.MATH.MP.3 Construct viable arguments and critique the reasoning of others.
- CCSS.MATH.MP.6 Attend to precision.
- CCSS.MATH.MP.7 Look for and make use of structure.

Mathematics : 1

- 920212 Number & Operations in Base Ten
- 920224 Measurement & Data
- 920199 Operations & Algebraic Thinking

Other Goals

Learning Personalized

- Element 3: Mindsets

TRANSFER

Students will be able to independently use their learning to ...

T1
Students will be able to independently use their learning to interpret and persevere in solving mathematical problems using strategic thinking and expressing answers with a degree of precision appropriate for the problem context.

T2
Students will be able to independently use their learning to express appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others, and attending to precision when making mathematical statements.

MEANING

UNDERSTANDINGS

Students will understand that ...

U1
Mathematicians have strategies, routines and responsibilities in math workshop that contribute to a successful math community.

U2
A strong math community is built through sharing and respecting other's ideas and abilities.

U3
Mathematicians use the 8 Mathematical Practices.

U4
Math tools help us learn math.

U5
Numbers follow a sequence order from 0 - 120.

U6
Groups can be put together or taken apart to add and subtract.

U7
Good mathematicians use math words to talk/write about their thinking.

ESSENTIAL QUESTIONS

Students will keep considering ...

Q1
How do mathematicians work together during Math Workshop?

Q2
How do good mathematicians communicate their ideas?

ACQUISITION OF KNOWLEDGE AND SKILL

KNOWLEDGE

Students will know ...

SKILLS

Students will be skilled at ...

	K1 What a math community is. K2 The expectations for Math workshop, including rules, rewards and consequences. K3 What good mathematicians do, i.e., use tools, strategies, communicate thinking, etc. K4 The count sequence to 120. K5 Addition and Subtraction with fluency through 10. K6 Place value of tens and ones. K7 Vocabulary: • count • add/subtract • tens/ones • place value • compose • decompose • digits • math workshop • routines • rules • consequences • rewards • math tools • math centers • anchor charts • preserve	S1 Following rules and routines during Math Workshop. S2 Using a variety of math tools and strategies. S3 Communicating their mathematical thinking. S4 Actively listen to teacher and classmates. S5 Demonstrating behaviors/habits of mind consistent with the 8 Mathematical Practices. S6 Counting to 120 by tens and ones. S7 Solving addition and subtraction problems. S8 Counting to 120 starting at any number. S9 Counting to tell the number of objects. S10 Composing and decomposing numbers using tens and ones.

	• model • reasoning • precision • math practices	

STAGE 2: ASSESSMENT EVIDENCE

PERFORMANCE TASK(S)

Coding	Code	Evaluative Criteria	Description

OTHER EVIDENCE

Coding	Code	Evaluative Criteria	Description

STAGE 3: LEARNING PLAN

PRE-ASSESSMENTS

District Benchmark Assessment (September 8 - October 6)
NBT & MD Assessment Standards: 1.NBT.1, 1.NBT.2, 1.NBT.3, 1.NBT.4, 1.NBT.5, 1.NBT.6, 1.MD.1 and 1.MD.2:
O & A Assessment Standards: 1.OA.3, 1.OA.4, 1. OA.5, 1.OA.6, 1. OA.7, 1. OA.8
Fluency Assessment Standards: 1.OA.6

Coding	Code	Description of Learning Activity	Extension / Modification
	LE1	**Duration:** 20.0 Day(s) **Activity:** Follow Nicki Newton's "The First 20 Days of Guided Math" from Guided Math in Action; Use enVision 2.0 animated videos to review Grade 1 major clusters (as needed); Review 8 Mathematical Practices (as needed); and Supplement instruction with additional resources. **Resources** • RES3 - Math Workshop in Action - Nicki Newton's Math Workshop in Action	Step 1: Think of the most advanced student in your classroom and design an activity Step 2: Scaffold that activity such that students at or near grade-level can successfully the complete the activity. Step 3: Scaffold the activity (from step 2) so that a below grade-level student can successfully complete the activity.